

REMARKS

Claims 1-2, 7-12, and 33-40 are pending in this application, claims 41 to 56 having been withdrawn from consideration as being directed to a non-elected invention.

Claims 1, 7-9, and 11-12 were rejected under 35 U.S.C. §103(a) as being obvious over U.S. Patent No. 5,920,084 (Gu, et al.) in view of U.S. Patent No. 5,053,844 (Murakami, et al.).

Claims 33, 37, and 39-40 were rejected under 35 U.S.C. §103(a) as being obvious over Gu in view of U.S. Patent No. 5,646,756 (Dohjo, et al.) and U.S. Patent No. 5,668,379 (Ono, et al.).

Claims 2 and 34-36 were rejected under 35 U.S.C. §103(a) as being obvious over Gu, Murakami, Dohjo, and Ono.

Claims 10 and 38 were rejected under 35 U.S.C. §103(a) as being obvious over Gu, Murakami and Dohjo, Ono, and further in view of U.S. Patent No. 5,671,027 (Sasano, et al.).

Applicant respectfully traverses this rejection.

Applicant urges that independent claim 1 is not obvious over Gu and Murakami for at least the reasons presented herein below.

At the very least, there is no motivation or suggestion to combine Gu and Murakami to produce the invention claimed in claim 1. The Examiner conceded that Gu does not disclose *a second insulating layer formed . . . with an a-Si:C:O or an a-Si:O:F layer*, as

recited in claim 1, but cited Murakami as disclosing this feature. Although the Examiner correctly points out that Murakami discloses an a-Si:O:F layer, Murakami does not suggest using this material in a thin film transistor since Murakami discloses a photosensor device. In addition, the Examiner has not established a proper motivation for combining Murakami with Gu. Murakami applies the a-Si:O:F layer for adjusting an energy band gap between layers of a photosensor. This is a different use of the a-Si:O:F layer from that of the present invention, wherein the a-Si:O:F layer is used due to its low dielectric constant for reducing cross-talk between the first pixel electrode and the second signal line. The Examiner asserted that the amorphous silicon layers of Murakami “reduce the band gap thickness, which ultimately increases the intensity ratio, improves uniformity in structure, and maximizes color-sensing application” are motivation to combine Murakami and Gu. Applicant urges, however, that these alleged advantages of Murakami are not relevant to an insulating layer of a thin film transistor array substrate, as an insulating does not require such conditions. The purpose of the a-Si:O:F insulating layer is to reduce or minimize parasitic capacitance between the first pixel electrode and the second signal line. One skilled in the art would not look to the teachings of Murakami for optimizing capacitance. Thus, Applicant urges that there is no motivation or suggestion to combine Gu with Murakami, nor is there any reasonable expectation that one skilled in the art could successfully produce the invention of claim 1 by combining Gu with Murakami.

Therefore, Applicant urges that claim 1 is not *prima facie* obvious in view of Gu and Murakami. Reconsideration and withdraw of this rejection are respectfully requested.

Claims 2 and 7-12 depend from claim 1, and are thus patentable for at least the same reasons as claim 1. Reconsideration and withdraw of these rejections are respectfully requested.

Applicant urges that independent claim 33 is not obvious over Gu, Dohjo, and Ono for at least the reasons presented herein below.

At the very least, the combination of Gu, Dohjo and Ono do not disclose or suggest a thin film transistor array substrate having a *first insulating layer includes a top layer and a bottom layer, the bottom layer having dielectric constant about 4 or less, and the top layer being a silicon nitride layer*, as essentially recited in claim 33. The Examiner conceded that Gu fails to disclose a bottom layer having a dielectric constant about 4.0 or less, but then cited Dohjo and Ono as disclosing this feature. The Examiner asserted that ref. 16 of Fig. 1 of Dohjo corresponds to the bottom layer of the insulating layer, while Fig. 1, ref. 20 of Dohjo corresponds to the top layer. However, there is no ref. 16 in Dohjo's Fig. 1, and the ref. 16 disclosed in Dohjo refers instead to semiconductor layer in Figs. 5 and 6, not an insulating layer (see Col. 7, lines 27-35). A semi-conductor layer is different from an insulating layer. Furthermore, the section of Dohjo that describes ref. 20 of Fig. 1, col. 7, lines 41-45, describes it as a signal line that functions as a source electrode and a drain electrode. A signal line functioning as an electrode is different from an insulating layer. Furthermore, Applicant urges that Ono does not rectify this deficiency in Dohjo. Thus, Applicant urges that the combination of Gu, Dohjo, and Ono do not teach or suggest all of the claimed features of claim 33. Therefore, Applicant urges that a *prima facie* case of

obviousness of claim 33 over the combination of Gu, Dohjo, and Ono cannot be maintained.

Reconsideration and withdraw of these rejections are respectfully requested.

Claims 34-40 depend from claim 33, and are thus patentable for at least the same reasons as claim 33. Reconsideration and withdraw of these rejections are respectfully requested.

CONCLUSION

Applicant urges that claims 1-2, 7-12, and 33-40 are in condition for allowance for at least the reasons stated. Early and favorable action on this case is respectfully requested.

Respectfully submitted,

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